UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XA004NM

Site Name: Gravelly Slopes

Precipitation or Climate Zone: 9 to 14 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site is characterized by rolling to steep hills, mountain footslopes, and sides of mesas, benches and ridges. Slopes range from 15 to 35 percent on varying exposures. Elevation ranges from 6,900 to 8,400 feet above sea level.

Land Form:

1. Ridge
2. Hillside
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	6,900	8,400
Slope (percent)	15	35
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Medium to rapid.

CLIMATIC FEATURES

Narrative:

This site has a semi-arid continental climate. Summers are cool and winters are moderately cold. There are distinct seasonal temperature variations.

Mean annual precipitation varies from 12 to 14 inches. Deviations of 4 inches or more are quite common. Sixty percent of the precipitation is received during the native plant growth period, April through September. February, June, November and December receive less than .75 inches of precipitation per month. December is the driest month. During July, August and September 4 to 6 inches of precipitation influence the presence and production of warm-season plants. Fall and spring moisture is conducive to the growth of cool-season plants. Growth usually begins in March and ends with plant maturity and seed dissemination when the moisture deficiency and warmer temperatures occur in early June. There is also a period of growth in the fall. Summer precipitation is characterized by brief thunderstorms, normally occurring in the afternoon and evening. Winter moisture usually occurs as snow, which seldom lies on the ground for more than a few days.

Temperatures vary from a mean monthly of 68 degrees F in July to 25 degrees F in January. A maximum temperature on record of 99 degrees F in August to a minimum of 27 degrees F below zero in February. The average last killing frost in the spring is May 16th, and the first killing frost in the fall is October 4th. Frost-free season is approximately 140 days; however; freezing temperatures have been recorded every month except July and August. Temperatures are conducive for native grass and forb growth from April through September. Maximum shrub growth occurs in the spring.

Winds average ten miles per hour for the year, with somewhat higher averages in late winter and spring. Spring and summer winds increase transpiration rate of native plants and rapidly dry the surface soil. Most of the stronger winds blow from a westerly direction. Small soil particles are often displaced by the strong winds near the soil surface, which often results in structural damage to native plants, particularly young seedlings and very young trees.

Climatic conditions in HV-1 subresource area are generally harsher than those in HV-2. The mean annual precipitation varies from 9 to 13 inches with approximately 50 percent of the precipitation being received during the period of plant growth. Temperatures vary from a mean monthly of 64 degrees F in July to 21 degrees F in January. The frost-free period is approximately 120 days ranging from an average of May 30th to September 30th.

Climate data was obtained from the WCCR web site. Using 50% probabilities for freeze-free and frost-free seasons at 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	104	119
Freeze-free period (days):	134	145
Mean annual precipitation (inches):	9	14

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.52	1.79	7.6	45.6
February	.43	1.56	10.7	50.4
March	.67	1.92	16.8	56.8
April	.52	1.26	22.7	66.0
May	.62	1.26	28.8	75.5
June	.49	1.21	35.1	85.8
July	1.54	3.41	42.1	88.9
August	1.86	3.72	41.8	85.8
September	1.08	1.86	34.6	78.8
October	1.01	1.86	25.3	68.6
November	.71	1.60	16.2	56.0
December	.56	1.49	9.3	47.0

Climate Stations:

				Period		
Station ID	292241	Location	Cuba, NM	From: 01/01/14	To:	12/31/01
Station ID	293422	Location	Gallup FAA-AP, NM	From: 01/01/21	To:	12/31/01

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils are alluvial. They are generally moderately deep to deep and are well drained. Typically, greater than 35 percent of the surface soils are composed of gravels with gravels common in the top 20 inches of the soil profile. Surface textures range from gravelly to very gravelly loamy sand, sandy loam and loam. Subsoils are loams to clay loam. These soils have moderate permeability with runoff medium to rapid, depending on soil and vegetative cover.

Parent Material Kind: Colluvium
Parent Material Origin: Limestone-ss-shale

Surface Texture:

1. Gravelly loamy sand
2. Gravelly sandy loam
3. Gravelly loam
4. Very gravelly loamy sand
5. Very gravelly sandy loam
6. Very gravelly loam

Surface Texture Modifier:

1. Gravel
2.
3.

Subsurface Texture Group: Loamy
Surface Fragments <=3" (% Cover): 35 to 60
Surface Fragments >3" (% Cover): N/A
Subsurface Fragments <=3" (%Volume): 35 to 60
Subsurface Fragments >=3" (%Volume): N/A

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Moderate	Moderate
Depth (inches):	40	>72
Electrical Conductivity (mmhos/cm):	Unknown	Unknown
Sodium Absorption Ratio:	Unknown	Unknown
Soil Reaction (1:1 Water):	Unknown	Unknown
Soil Reaction (0.1M CaCl2):	Unknown	Unknown
Available Water Capacity (inches):	Unknown	Unknown
Calcium Carbonate Equivalent (percent):	Unknown	Unknown

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
The vegetative aspect is that of a mixed grassland-shrub complex. In some areas, especially in the southern portion of HV-2, pinyon pine and juniper also occur on this site. When a part of the potential plant community, the pinyon/juniper is more abundant on north and east slopes with a canopy ranging from three to ten percent.
*Usually restricted to south exposures.
**Usually most common on north exposures.

Canopy Cover:	
Trees, shrubs and half-shrubs	15 to 20 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	20
Bare ground	27
Surface gravel	35
Surface cobble and stone	5
Litter (percent)	7
Litter (average depth in cm.)	1

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	240	360	480
Forb	44	66	88
Tree/Shrub/Vine	80	120	160
Lichen			
Moss			
Microbiotic Crusts			
Total	400	600	800

Plant Community Composition and Group Annual Production: Plant species are grouped by annual production **not** by functional groups.

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	NECO26 HENE5	Needleandthread New Mexico Feathergrass	60 – 120	60 – 120
2	ACHY	Indian Ricegrass	60 – 90	60 – 90
3	PASM	Western Wheatgrass	30 – 90	30 – 90
4	BOER4	Black Grama *	0 – 90	0 – 90
5	PLJA BOGR2	Galleta Blue Grama	30 – 72	30 – 72
6	BOCU	Sideoats Grama **	18 – 60	18 – 60
7	POFE KOMA	Muttongrass Prairie Junegrass	18 – 42	18 – 42
8	ELEL5	Bottlebrush Squirreltail	18 – 30	18 – 30
9	MUMO	Mountain Muhly	6 – 18	6 – 18
10	SCSC	Little Bluestem	0 – 18	0 – 18
11	2GRAM	Other Grasses	60 – 72	60 – 72

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	ERIOG OXYTR CACO17 ASTER	Wildbuckwheat Locoweed spp. Indian Paintbrush Aster spp.	30 – 42	30 – 42
13	2FORBS	Other Forbs	18 – 30	18 – 30

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	ARTR2	Big Sagebrush	30 – 90	30 – 90
15	ATCA2 KRLA2	Fourwing Saltbush Winterfat	18 – 42	18 – 42
16	QUTU2 FERU PUME PUTR2	Scrub Oak Cliff Fendlerbush Cliff Rose Antelope Bitterbrush	0 – 30	0 – 30
17	JUMO PIED	Oneseed Juniper Pinyon Pine	18 – 42	18 – 42
18	CEMOP RHTR	Hairy Mountainmahogany Skunkbush Sumac	6 – 18	6 – 18
19	2SD	Other Shrubs	0 – 18	0 – 18

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other species include: sand dropseed, pine dropseed, muhly spp., wooly Indianwheat, yucca spp., pingue, rabbitbrush, broom snakeweed and threadleaf groundsel.

Plant Growth Curves

Growth Curve ID **0004NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **A mixed grassland-shrub complex.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, gray fox, Nuttall's cottontail, deer mouse, western harvest mouse, scrub jay, plain titmouse and fence lizard. These sites furnish winter food and cover for mule deer, elk, mountain bluebird and jays.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Sedillo	?

Recreational Uses:

This site is suited to nature observation and hiking. The proximity to mountainous and canyon settings enhance the desirability of such activities.

Wood Products:

Although this site does produce minor amounts of such wood products as fuelwood and fence posts, the slope and delicacy of the soils prohibit most harvesting of these products. Clear cutting of the tree species is not recommended.

Other Products:

Grazing:

Approximately 80 percent of the vegetative production on this site are suitable for grazing or browsing by domestic livestock and wildlife. Grazing distribution generally is not a problem if adequate waterings are provided. However, to encourage grazing of the steeper slopes, trail construction or salting may need to be provided. Continuous grazing, which allows repetitive grazing of the desirable species, eventually leads to a decrease in these species from the plant community. Such deterioration is indicated by a decrease in needlegrasses, Indian ricegrass, western wheatgrass, sideoats grama, fourwing saltbush and winterfat. Species that increase include galleta, blue grama, dropseed spp., threeawn spp. and undesirable woody species. A planned grazing system with periodic deferment is best to maintain the desirable balance between plant species and to maintain high productivity.

In addition to domestic livestock, deer, small mammals and birds also use this site.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	3.8 – 5.1
75 – 51	4.9 – 7.6
50 – 26	7.4 – 15.2
25 – 0	15.2+

Plant Part	Code	Species Preference	Code
Stems	**S**	**None Selected**	**NS**
Leaves	**L**	**Preferred**	**P**
Flowers	**F**	**Desirable**	**D**
Fruits/Seeds	**F/S**	**Undesirable**	**U**
Entire Plant	**EP**	**Not Consumed**	**NC**
Underground Parts	**UP**	**Emergency**	**E**
		Toxic	**T**

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Some Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Wildlife
Animal Type: Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Fourwing Saltbush	Atriplex canescens	L/S	P	P	D	D	D	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Wildbuckwheat	Eriogonum spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Hairy Mountainmahogany	Cercocarpus montanus	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Other Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **Santa Fe, Taos**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the New Mexico and Arizona Plateaus and Mesas 36 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: McKinley & Sandoval

Characteristic Soils Are:	
Sedillo	
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester		Don Sylvester	

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	08/07/02	George Chavez	09/11/02